DOCUMENT RESUME

ED 228 847 FL 013 618

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TITLE Utilization of Knowledge Acquired through the First Language in Comprehending a Second Language: Narrative Comprehension by Spanish-English Speakers.
INSTITUTION California Univ., Santa Barbara.
SPONS AGENCY National Inst. of Education (ED), Washington, DC.
PUB DATE Feb 83
NOTE 26p.; Paper presented at the Annual International Bilingual Bicultural Education Conference of the National Association for Bilingual Education (12th, Washington, DC, February 15-19, 1983).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Bilingual Education; Bilingualism; Elementary Education; *English (Second Language); Language Processing; *Reading Comprehension; *Second Language Learning; *Spanish; Teaching Methods; *Transfer of Training

ABSTRACT

Three issues were examined in a study of children's use of first language knowledge in acquiring a second language: (1) understanding of narratives, (2) the degree to which knowledge available in the child's first language is used in understanding second language input, and (3) the relationship between knowledge utilization in two languages as children become bilingual and acquire more literacy skills. Selections from "Aesop's Fables" were used for a series of comprehension studies involving a variety of students in kindergarten through grade 5. The data from the experiment are discussed with reference to two issues: the relationship between comprehension of Spanish language input and English language input by students exposed to both languages, and the relationship between students dealing with both languages as compared with students dealing only with English during elementary school. The three aspects of comprehension tested were story recall, ability to answer why-questions, and ability to generalize or give the moral of the story. The data indicate that once basic skills are acquired in the first language, they are utilized in the second language. A further study is outlined which will deal with skills needed in the passage from narrative to expository text comprehension. (AMH)

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Paper presented at the Twelfth Annual International Bilingual Bicultural Education Conference of the National Association for Bilingual Eduation, Washington, D.C., February, 1983. The research project was supported by a grant from the National Institute of Education and the Part C Research Agenda.

FL013618

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A large amount of research points to the importance of the narrative story in the lives of children. The narrative form originated in the oral tradition, prior to the invention of writing systems. Narratives were a primary mechanism for preserving and transmitting the history of a culture. A relatively fixed structure for the narrative developed, probably to make such tales easier to remember. As writing systems evolved the functions of narratives broadened to include entertainment as well as the communication of societal values and mores. As with the evolution of man in general, narratives have an early place of importance in the development of a child. Along with conversation and dialogue, narrative stories are among the first types of organized language to which the child is exposed. Many three and four year olds also attempt to produce their own narratives and often do it very well.

Children's experiences with narratives lead to the acquisition of knowledge of the typical form of these stories and to familiarity with the sorts of situations, events and themes comprising the content (e.g., Mandler & Johnson, 1977; Poulson, Kintsch, Kintsch & Premack, 1979). These outcomes are important components in the development of literacy and in beginning reading instruction. Often, the first written down language children see is dialogue and this is quickly followed by short narrative stories. The process of comprehending these stories, in part, depends on using previously acquired knowledge to encode the message and to later

retrieve it. Knowledge of narrative content and form may be particularly important in children's ability to produce organized language, whether in oral or written form (Stein & Trabasso, 1982).

For the monolingual English speaker, knowledge acquired through oral language experiences prior to school entrance has been in English and there is no issue of the applicability of these experiences to written down English. Barring some type of cognitive and/or language disability, the child uses this knowledge base in the classroom. For the native Spanish speaker, knowledge acquired through oral language experiences prior to school entrance has generally been in Spanish. A significant amount of research has addressed the question of whether bilinguals have language-specific knowledge systems or a common system (e.g., Caramazza & Brones, 1979, 1980; Kintsch, 1970; Lopez & Young, 1974). While the evidence appears to favor the common system interpretation, (Dornic, 1979; Macnamara, 1967; McCormack, 1977), we feel this is a problematic empirical issue. Rather, the important issues concern the circumstances under which previously acquired knowledge is used in dealing with new language input, whether Spanish or English.

We examined children's understanding of narratives, the degree to which knowledge available in the child's first language is used in understanding second language input, and the relationship between knowledge utilization in two languages as children become bilingual and acquire age-appropriate literacy skills. We used a particular type of narrative text to examine this issue: Aesop's fables.

This type of narrative has at least two characteristics that make it a good starting place. Aesop's fables are part of the literary tradition of

both Spanish and English cultures (Bravo-Villasante, 1973a; Childcraft, 1973) and are therefore familiar to each culture. In addition, educational researchers have used narratives in the assessment of language proficiency in bilingual and monolingual children (e.g., Cohen, 1975; John, Horner & Berney, 1970; Lambert & Macnamara, 1969). In fact, some of the most widely used language assessment instruments use story recall or story telling tasks (e.g., Language Assessment Scales, 1977; Bilingual Inventory of Natural Language, 1974). However, the scoring and interpretation of performance on these instruments does not reflect current empirical work in this area. The results and conclusions regarding language proficiency may be confounded with differences in structural characteristics of the presented stories and are difficult to interpret, given the lack of basic, descriptive developmental data on story recall by non-native English speakers in first and second languages. Finally, a number of systems have been developed for describing the organizational structure of this type of narrative (e.g., Johnson & Mandler, 1980; Rumelhart, 1977; Stein & Glenn, 1979; Wilensky, 1980).

A sample of the stories we used is shown on the first page of the handout. In this structure, there are three behavioral episodes, each consisting of a beginning, reaction, development and outcome. The beginning sets up the problem of the episode; the reaction typically relates goals and emotional responses to the problem; the development relates attempts to deal with the problem; and the outcome gives information about the result of the attempts. The fable shown in Table 1 involves three characters; two of these, the ant and the dove, interact in all 3 episodes in a cooperative way. The dove first helps the ant meet his goal of getting a drink, and then helps save the ant from drowning. In the third episode, when the ant sees that the dove is in trouble, the ant acts to help the dove. This

fable illustrates the moral "One good turn deserves another." Note that this tagline moral was not presented with the stories. We also used a second structure, again consisting of three episodes and three characters. However, in the second structure, the first two episodes involve goal-conflict and its resolution. A squirrel wakes up a lion; the lion is about to eat the squirrel and the squirrel must bargain his way out of the situation. He does so, promising to help the lion someday, even though he is so much smaller than the lion. In the third episode, the lion is in trouble and the squirrel does act to help him out of it. This fable illustrates the moral "Little friends may prove great friends." Unlike the first structure, there is a more explicit obligation to help in the third episode.

We used both of these structures in a series of comprehension studies, involving students in Kindergarten through fifth grade. Different and age-appropriate literacy skills were tested in the various experiments. Rather than describing each experiment and its results, we will discuss the data to address two issues. The first issue concerns the relationship between comprehension of Spanish language input and English language input by students exposed to both languages. The second issue concerns the relationship between students dealing with both Spanish and English as compared with those dealing only with English during elementary school. Three different aspects of comprehension were assessed by using three dependent measures. These are outlined in Table 2. The first measure was based on a story-recall task: mean number of statements remembered. The second measure was based on a probe-question task. Four why questions were asked for each presented story. The questions asked the children to give reasons for the actions of the various characters. A percent correct score was derived from these data. Finally, we asked the children "What lesson does

the story teach?" We classified responses to this question into those representing abstractions from the story and those that did not. By abstractions, we mean generalized statements conveying a moral or general principle illustrated by the story. These types of responses are not necessarily a direct result of exact memory for the presented information. A moral represents a generalization from the concrete activities depicted in the story. It is not content specific and not tied to particular events or characters in the story.

The experiments involved the testing of a variety of students. Subjects differ along a number of dimensions: age, language of beginning reading, degree of exposure to English as a second language and to Spanish as a second language. Table 3 gives an abbreviated description of the groups and tasks administered. All testing was conducted during the months of March and April of the school year.

Kindergarten. A total of 21 students were tested. For 13, Spanish is the primary language. They receive ESL instruction with all other activities in Spanish. Their Daley Test scores were zone 2 or 3 in Spanish. These children listened to both Spanish and English stories. For 8, English is the primary language and they are in a traditional monolingual classroom. These children listened to English versions of these stories.

First Grade. This sample consisted of three groups of subjects. Sixteen are children who began reading in Spanish and are receiving ESL. Twelve began reading in English and are receiving SSL. The third group consists of monolingual English speakers who receive no Spanish instruction.

Second Grade. Three groups comparable to the first grade groups were tested. The number of subjects in each group is shown in the table.

Third Grade. Three groups of third graders were tested, 10 subjects in each group. The first group began reading in Spanish and were receiving ESL. They had had one month of after-school instruction in readiness for English reading but had not yet begun English reading. A second group had begun reading in Spanish but had been exited from the bilingual program during first or second grade and were in monolingual English classrooms. The third group was comprised of monolingual English students who had received no instruction in Spanish.

Fourth Grade. Twelve students who began reading in Spanish and had been reading in English for about 1 year participated. The second group was 8 monolingual English speakers.

Fifth-Sixth Grade. Four groups of fifth-sixth graders were tested. Forty were monolingual English speakers, reading at grade level in English and receiving no instruction in Spanish. The remaining 28 students represented three groups in bilingual program classrooms. Twelve had begun reading in Spanish and were reading in Spanish and English at level. Eight were reading in English at level and were receiving ESL. Eight had been in the classroom for approximately 1 year and were receiving SSL. They were reading in Spanish at the third-fourth grade level.

The first, second and fifth grade students in the SSL component consist of Anglos and Chicanos whose parents requested placement in a Bilingual program. The fifth grade ESL students represent recent arrivals to the district who were classified as limited English proficient upon entrance to school. The third and fourth graders were drawn from a different school than the other students. The population in that school is predominantly Chicano and Mexican-American. The monolingual English groups consisted of children who were classified as English proficient upon

entrance into school and never participated in a Bilingual program. At each grade level, the data are from students attending the same school.

The tasks (conditions) administered to each group are shown in the third column. The tasks reflect types of age-appropriate activities. For example, by fifth-sixth grade students are expected to be able to write about information they have read while oral production is expected in the early grades. It is important to note that we allowed children to do the recall task in the language they preferred regardless of the language of the stories. We were interested in what they had understood and remembered and wanted a measure not confounded with production skills in the particular language.

Also note that no student heard or read the exact same story twice. Our materials consisted of two examples of each structure with different characters and events.

The final column of the table shows the mean number of statements recalled for each of the various groups and presentation conditions. This measure represents the amount of presented story statements reproduced in gist form or summarized across. Appropriate analyses of variance indicated no structure effects, no practice effects and no effects related to whether English or Spanish input occurred first in the experimental procedure. For purposes of addressing the issues of knowledge utilization, I'm going to use a series of graphs.

The data shown in the top left hand panel of Figure 1 address the relationship between performance in two languages for those students who began reading in Spanish and transitioned to English reading at end of third beginning of fourth grade. These are students who have been in Bilingual classrooms since entrance into school. The solid line represents

Spanish language input, the dotted English. Significance tests on the differences between the means for Spanish versus English input at each grade level indicated that the differences are significant only for the Kindergarten children, $F(1,12) = 9.53$, $p < .01$. Secondly, for input in both languages, there is a steady increase across grades until fourth grade. This trend is similar to previously reported developmental changes in monolingual English samples on story recall tasks.

We want to focus on four additional data points, shown in the top right of Figure 1. The open circles indicate performance on Spanish materials and the ▲ performance on English. In third grade, those students who transitioned to English in first or second grade do better on English input (mean = 15.2) than those third graders who have not yet transitioned (mean = 11.85), $t = 2.39$, $df = 18$, $p < .05$. However, their performance in Spanish is worse, $t = 2.23$, $df = 18$, $p < .05$ (8.8 versus 14.2). This superiority in English appears to be temporary however; the performance of the fourth grade bilingual group was equivalent for English (mean = 16.96) and Spanish input (mean = 18.08). In the fifth/sixth grade these are students who have been in the Bilingual program for approximately one year. They are reading at the 3/4 level in Spanish. Their performance with Spanish input is equivalent to that of the fourth and fifth graders. Their performance with English input (mean = 13.44) is significantly lower than the fifth/sixth bilingual students (mean = 18.17), $t = 2.25$, $df = 18$, $p < .05$ but falls between the performance of third and fourth grade groups on English materials.

An examination of the data from the why questions indicates a similar pattern. Of those who began reading in Spanish, Kindergartners were the only group whose mean percent correct scores were higher with Spanish input

than with English. In general, the mean percent correct for the 8 questions (four from Structure 1 and four from Structure 2) tended to be above 65% for all of these groups.

As a whole these data indicate that once children for whom Spanish is the first language have mastered basic auditory parsing skills for English, comprehension of stories in Spanish and English reflects largely equivalent utilization of relevant knowledge. We came to this same conclusion for students receiving Spanish as a second language. These data are shown in the lower left portion of Figure 1.

In first and second grades, students perform significantly better on materials presented in English over those in Spanish. However, for the fifth/sixth grade students the difference is no longer significant, 12%.

Performance on the why questions was at ceiling levels in both languages for these fifth/sixth students. For the first and second grade students, performance was better after English than after Spanish input in only 3 out of 8 cases. Our interpretation of the slower acquisition of Spanish is in terms of instructional time differences between ESL and SSL. Spending only 30 minutes a day on Spanish, and this "when there is time" leads to a slower mastery of basic auditory skills. However, it is important to note that for both the ESL and SSL students comprehension as assessed by the why questions shows an earlier mastery of the second language. While this is not surprising, our efforts to assess proficiency need to bear this in mind.

These recall and why question data indicate that students enrolled in bilingual programs utilize prior knowledge of story form and content to similar degrees in both Spanish and English languages, once basic auditory and orthographic parsing skills are acquired.

One might argue however that dealing with two languages in elementary school leads to performance in both languages that is poorer than performance by monolingual students. The data in the lower right panel of Figure 1 illustrate that this is not the case.

This is the recall data for the monolingual English students. It shows an age trend similar to that of the Bilingual-program groups. Comparison with the Bilingual recall data indicates that only in third grade is performance with English input significantly different. In the third grade, students not yet reading English do worse on English input than monolingual English students, $t = 2.42$, $df = 18$, $p < .05$. However, performance with Spanish input for the ESL students is equal to performance with English input for the monolingual English students (14.2 vs 15.53). Comparison of the SSL groups with the monolingual groups, suggests that in first and second grades, the SSL students may be doing a bit better with English input. The why question data for the monolingual English students again showed generally high performance (better than 65% correct) on most of the questions. There was only 1 question out of 8 on which monolingual students did better than the other groups and this was only for the Kindergarten level.

We should point out that there was a good bit of individual variability in recall and some variability in why question responses in Kindergarten, first and second grades. We have done some preliminary correlations to determine the consistency of recall and question-answering behavior within an individual. All correlations were positive indicating that the better the recall the more why questions correct. Thus it is not the case that children with little or no recall still answer the questions correctly. We are continuing to explore this issue.

The final set of data we want to deal with are responses to the "what lesson" question. The pattern of responding mirrors the same trends reported in the recall data. The proportion of responses that generalized some moral principle or rule of conduct is shown in Figure 2. The top panel shows the data for the ESL students, i.e., those who began reading in Spanish and transitioned to English reading around beginning of fourth grade. The data indicate two important points. First, there are no differences in any grade level related to language of input. Second, it is not until the fourth grade that more than 50% of the responses generalize from the story. Below grade 4, the majority of the responses to this question involve retelling information from the story. Some of the younger children also interpreted "lesson" as school lesson and responded "letters," "words," "English," "Spanish." The responses to the lesson question for the monolingual English students are shown in the bottom panel of Figure 2. The difference between the ESL and monolingual students is in the third graders. Differences between K, 1 and 2 are not significant. Third grade monolingual students are equivalent to the fourth and fifth graders on this task.

It may be that this difference between the ESL and monolingual students reflects how classroom time is spent. Teachers in the monolingual classrooms may cover questions like these at an earlier grade level than those in the bilingual classrooms. Answering this type of question with a generalization from the story may be a skill that requires some type of instruction, either of a formal nature in the classroom setting or of an informal nature in the home/parental setting. In contrast the performance measured by the recall and why questions may be based on knowledge and skills that are acquired without direct instruction, i.e. incidentally.

Our findings indicate that knowledge used to guide story comprehension in a first language is also used to guide story comprehension in the second language. This process is contingent upon mastery of basic auditory or orthographic coding skills in the second language. This conclusion reinforces the instructional practice of using the primary language as the language of instruction while English is introduced as a second language. There may be some skills which require direct instruction and on which students can be expected to differ as a function of classroom lesson plans. However, these appear to be transitory, not persisting for more than one grade. The data also indicate that narrative comprehension skills as assessed in this research are no different for students who have been learning one language versus two during elementary school. We are pursuing our investigations into individual differences in performance and into the area of reading-to-learn from text. The next section of this talk describes the rationale and design of an experiment currently underway that examines reading-to-learn.

We know that reading plays a central role in children's academic performance. Once they have mastered basic decoding skills, the purpose for reading shifts from learning-to-read to reading-to-learn. Textbooks used for the task of learning to read consist primarily of reading materials that generally have a narrative thread running through them. They are about people and social situations which most children are familiar with; or material which is similar to that which we used in the narrative study just presented.

Materials for reading-to-learn, however, are "content-oriented" and are intended to add to the student's existing body of knowledge. They are different from the narrative, both in structure and in purpose. In addition, they cover a wide range of topics less familiar to students.

A prevailing and persistent assumption often made about the relationship between narrative texts and expository texts is that if children's comprehension of narratives is good, their comprehension of content material will be equally good. This assumption is intuitive at best, and not strongly supported by empirical evidence. For this reason, we are taking the study of children's comprehension a step further and examining comprehension of expository texts which are more consistent with the kinds of materials presented to third grade students and above in reading-to-learn tasks.

The investigation will be conducted with third and fourth grade Spanish/English language students enrolled in bilingual education programs in a school district in Southern California.

The study is designed to address two questions:

1) whether access to two languages affects comprehension of informational texts in Spanish and in English; and

2) whether informal or formal linguistic expression of a text influences the amount or quality of recall.

Formal and informal linguistic expression refers to the presence or absence of mechanisms in the text which deliberately attempt to involve the reader in the processing of information. When we reviewed content area textbooks used in the middle grades (3-6), two distinctly different styles of presenting new information to children seemed apparent. One is a formal linguistic expression which takes on an impersonal approach towards the reader. The information is presented without regard to any particular reading audience. Therefore, there are no attempts to personally involve the reader in any way. Another characteristic of this style is that contractions are rarely used. The Elementary Science Series by McGraw Hill is a good example of this style.

The second style which emerged from the survey of content area textbooks is an informal language style. Rubin (1980) refers to this medium-related dimension as "involvement." Throughout the text, the information is directed at the young reader by frequent use of the 2nd person--"you." For example, in a passage about astronauts one may find a sentence such as "if you were to walk in space, you could leap like a kangaroo," or "can you imagine how it would be to weigh nothing?" Materials written in this style often contain contractions, reflecting more of an informal oral language. Some examples of textbooks include: Concepts in Science, Harcourt, Brace & World; Health & Growth, MacMillan Publishing.

To examine the two questions mentioned, we have developed four expository passages, using topics about which we are relatively certain, children have no prior knowledge. The information is on not-often-mentioned vanishing animals. These texts have been written in Spanish, with their equivalent English versions. Each of the four texts has also been written in two versions: formal and informal language.

Bilingual subjects will be asked to read two Spanish and two English texts, one formal and one informal version in each language. Third and fourth grade monolingual English students will be asked to read the four texts in English with two samples of formal and informal styles.

Very few studies have been conducted in the area of children's comprehension of content area materials. This is somewhat astonishing, given the prominence of content area materials in the school curriculum and the fact that reading-to-learn becomes increasingly important with each year the child continues in school. Research with bilingual subjects in this area of reading is even scarcer. We believe that the findings from this study

will have important implications for classroom practice and for the development of curriculum materials which can be most effective for bilingual student populations.

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Table 1

Story: "The Ant and the Dove"

		La Hormiga y la Paloma
Setting	1.	Una vez había una hormiga que iba caminando.
Beginning	2.	De pronto, se paró.
Events	3.	"Tengo sed," dijo la hormiga.
	4.	"¿Por qué no bebes un poco de agua del arroyo?"
Complex	5.	dijo una paloma que estaba en una rama de un árbol.
Reaction	6.	"El arroyo esta cerca.
	7.	"Pero cuidada no te caigas en el."
	8.	La hormiga fue al río
Development	9.	y comenzó a beber.
Outcome	10.	De repente, un viento aventó a la hormiga al agua.
Beginning	11.	"¡Ayudenme!" gritó la hormiga.
Event	12.	"¡Me ahogo!"
Complex	13.	La paloma oyó el grito
Reaction	14.	y fue pronto a salvar a la hormiga.
	15.	La paloma quebró una ramita del árbol con el pico.
Development	16.	Después, la paloma voló sobre el arroyo con la ramita
	17.	y la dijo caer junto a la hormiga.
	18.	La hormiga se subió a la ramita
Outcome	19.	y floto hasta la orilla.
Beginning	20.	Poco después, la hormiga vió a un cazador.
Event	21.	El cazador estaba preparando una trampa.
Complex	22.	El escondio la trampa
Reaction	23.	para coger a la paloma.
Development	24.	La paloma comenzó a volar hacia la trampa.
	25.	Así que la hormiga mordió el tobillo del cazador tan fuerte como pudo.
	26.	"¡Ay!" gritó el cazador.
Outcome	27.	La paloma oyó al cazador
	28.	y salió volando.

Constituents		Proposition(s) in the text
Setting	1	Once there was an ant who was walking along.
Beginning Event	2	Suddenly, she stopped.
	3	"I'm thirsty," said the ant.
Complex Reaction	4	"Why don't you get a drink of water from the river?"
	5	said a dove who was sitting in a nearby tree.
	6	"The river is close by.
	7	Just be careful you don't fall in."
Development	8	The ant went quickly to the river
	9	and began to drink.
Outcome	10	Suddenly, the wind blew the ant into the water.
Beginning Event	11	"Help!" cried the ant.
	12	"I'm drowning."
Complex Reaction	13	The dove heard the cry
	14	and went quickly to save the ant.
Development	15	The dove broke a branch from the tree with her beak.
	16	Then, the dove flew over the river with the branch
	17	and dropped it to the ant.
Outcome	18	The ant climbed onto the branch
	19	and floated to shore.
Beginning Event	20	Not long after, the ant saw a hunter.
	21	The hunter was setting a trap.
Complex Reaction	22	He hid the trap
	23	so he could catch the dove.
Development	24	The dove was flying toward the trap.
	25	So, the ant bit the hunter's ankle as hard as she co
Outcome	26	The hunter let out a loud scream, "Ouch!"
	27	The dove heard the hunter
	28	and flew away.

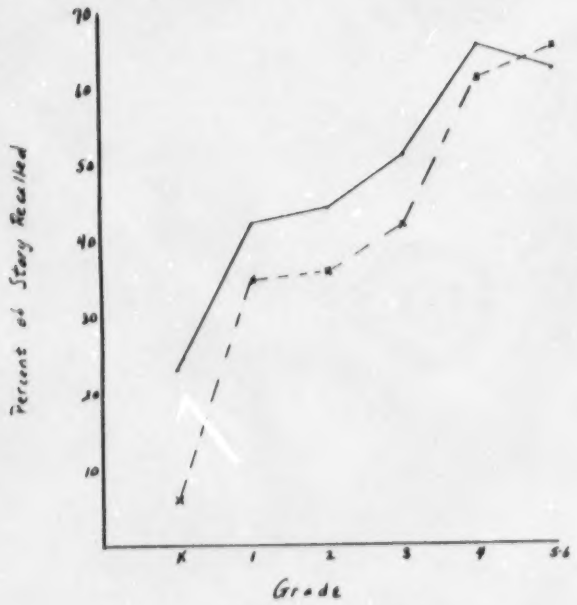
Table 2

Tasks	Derived Measures
1. Story recall	1. Mean number of statements recalled or summarized across.
2. Why probe questions (e.g., Why did the ant go to the river?)	2. Percent correctly answered. (We scored more than one type of response as correct. e.g., to get a drink and he was thirsty were both scored as correct.)
3. What lesson question	3. Percent of responses that generalized from the specifics of the story. (Generalizes: You should help others. Does not generalize: The ant bit the hunter.)

Table 3

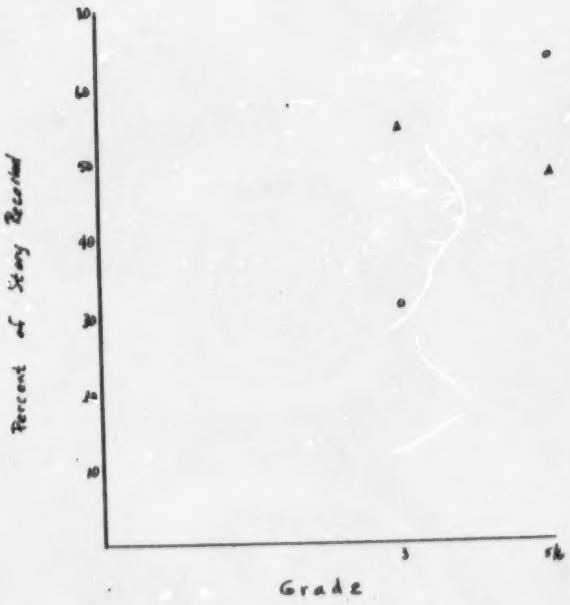
Subject groups, conditions and recall data for narratives

			Groups and Descriptions	Condition	Mean Recall (Max = 28)	
K	21	13	ESL; Spanish first language	Listen/Retell	Spanish	6.35
					English	1.96
		8	Monolingual English; No Spanish Instruction; Reading at level		English	4.06
1	44	16	ESL; Reading in Spanish at level	Listen/Retell	Spanish	11.9
					English	9.7
		12	SSL; Reading in English at level		Spanish	2.13
					English	12.42
		16	Monolingual English; No Spanish Instruction; Reading at level		English	9.66
2	28	10	ESL; Reading in Spanish at level	Listen/Retell	Spanish	12.15
					English	9.95
		10	SSL; Reading in English at level		Spanish	.8
					English	16.15
		8	Monolingual English; No Spanish Instruction; Reading at level		English	12.31
3	30	10	ESL; Reading in Spanish at level; Readiness for English reading	Listen/Retell	Spanish	14.2
					English	11.9
		10	Reading in English; Exited from bilingual classroom after first or second grade		Spanish	8.8
					English	15.2
		10	Monolingual English; No Spanish Instruction; Reading at level in English		English	15.5
4	20	12	Began Reading in Spanish; Reading in English 1 yr.	Read/Retell	Spanish	18.08
					English	16.96
		8	Monolingual English		English	16.31
5-6th	68	12	Began Reading in Spanish; Reading at level in Spanish and English	Read/Write	Spanish	17.34
					English	18.2
		8	ESL; Reading in Spanish at 3rd-4th level; 1 yr. in program	Listen/Write	Spanish	17.56
					English	13.4
		8	SSL; Reading in English at level		Spanish	13.13
					English	16.56
		40	Monolingual English; Reading in English at level	Read/Write	English	17.53

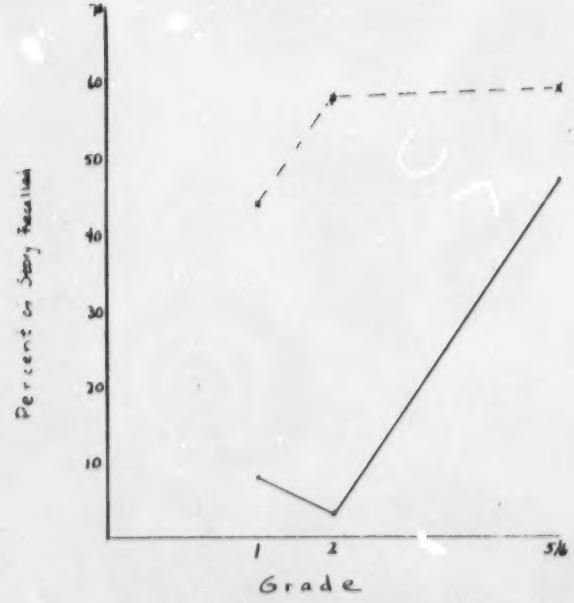


Students enrolled in Bilingual Programs who began reading in Spanish ESL component

—— Spanish input ○
- - - English input △

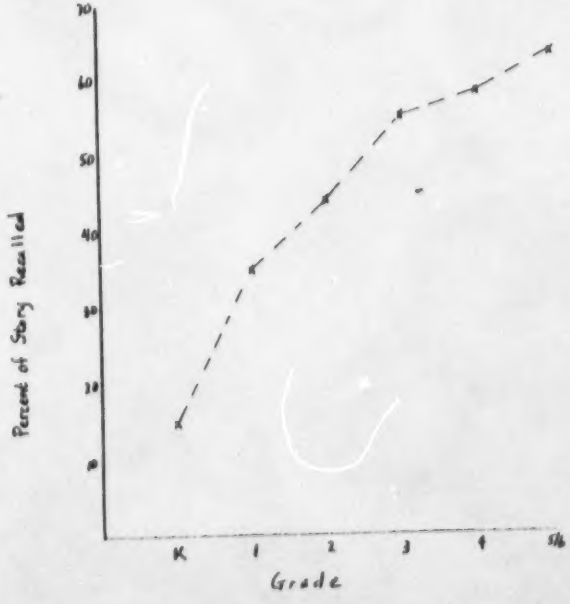


○ Spanish input
△ English input



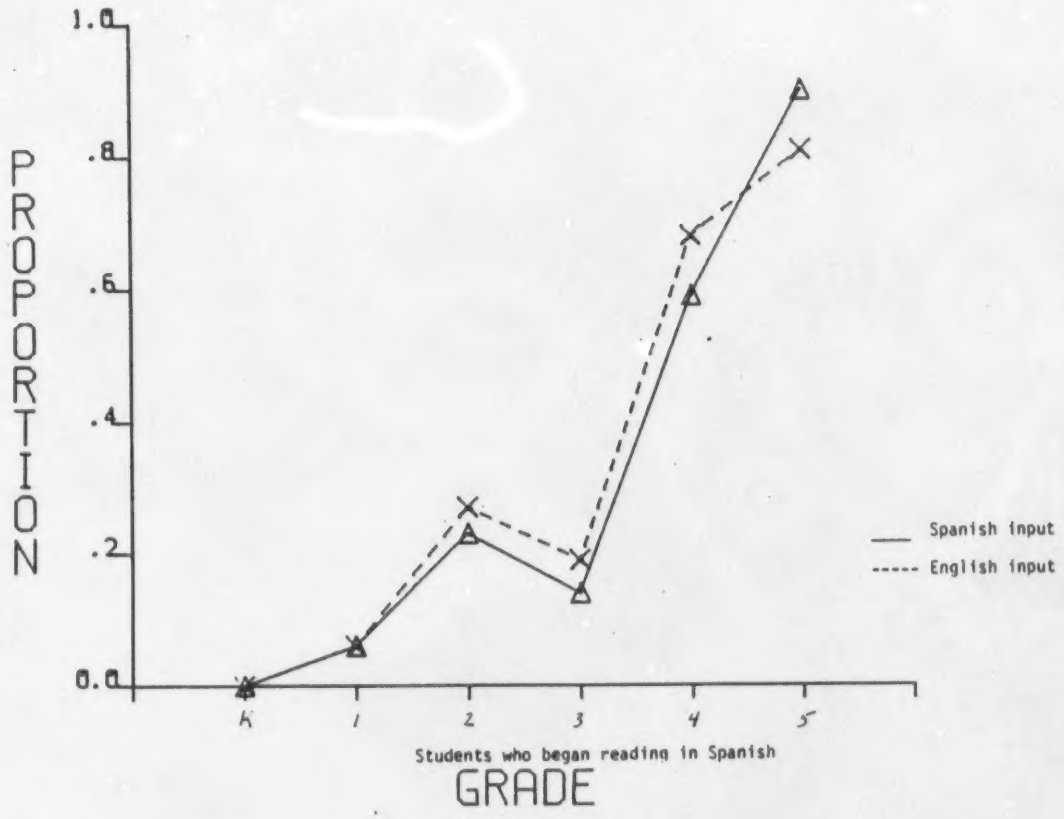
Students enrolled in Bilingual Programs who began reading in English ESL component

—— Spanish input
- - - - English input



Monolingual English Students; English language input

Figure 1


1.0
.8
.6
.4
.2
0.0
PROPORTION
K
1
2
3
4
5
Spanish input
English input
Students who began reading in Spanish
GRADE

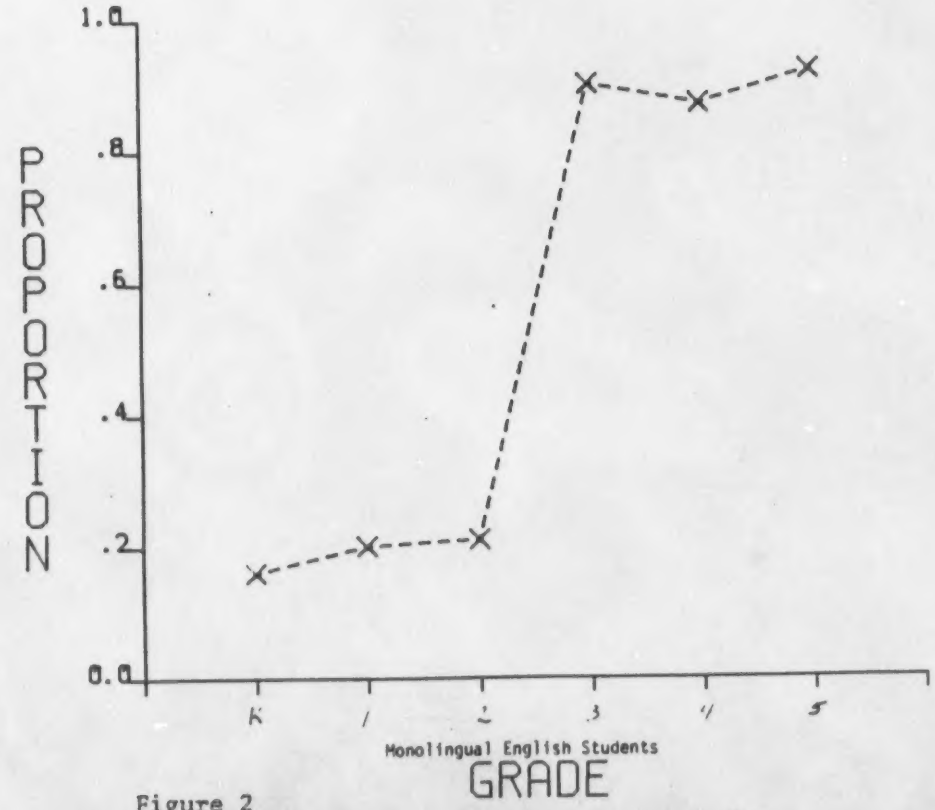

1.0
.8
.6
.4
.2
0.0
PROPORTION
K
1
2
3
4
5
Monolingual English Students
GRADE

Figure 2